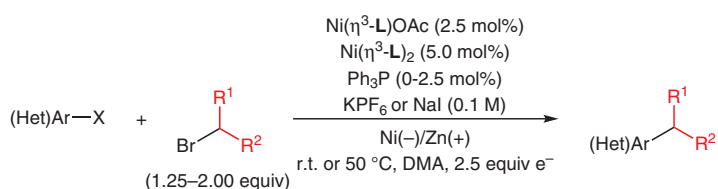
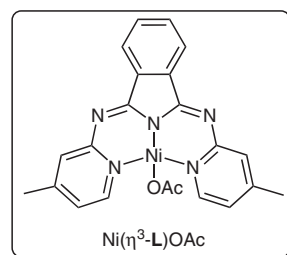


B. L. TRUESDELL, T. B. HAMBY, C. S. SEVOV* (THE OHIO STATE UNIVERSITY, COLUMBUS, USA)
General C(sp²)-C(sp³) Cross-Electrophile Coupling Reactions Enabled by Overcharge Protection of Homogeneous Electrocatalysts
J. Am. Chem. Soc. **2020**, *142*, 5884–5893.

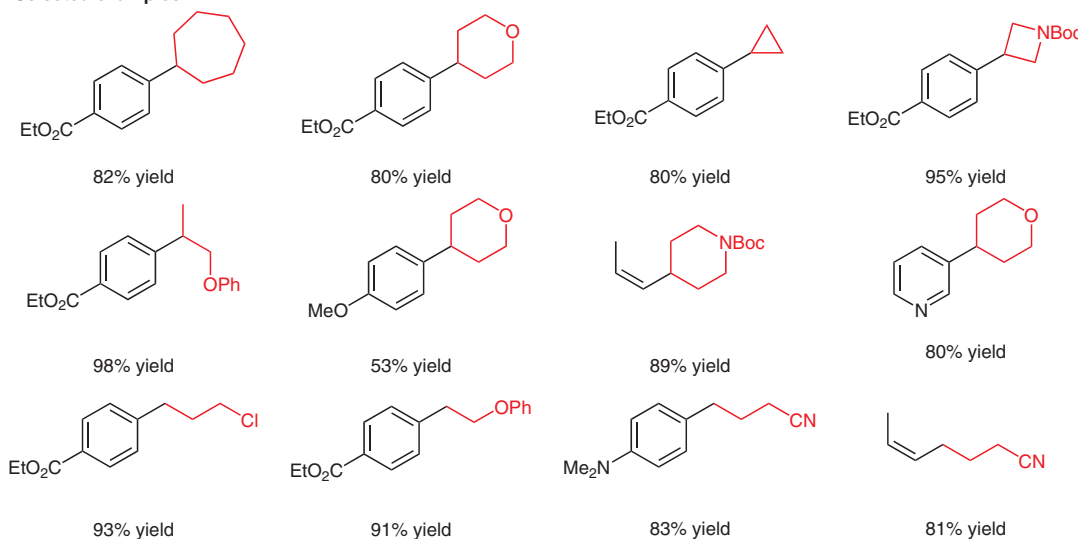
Nickel-Catalyzed Cross-Electrophile Coupling using Electrochemistry



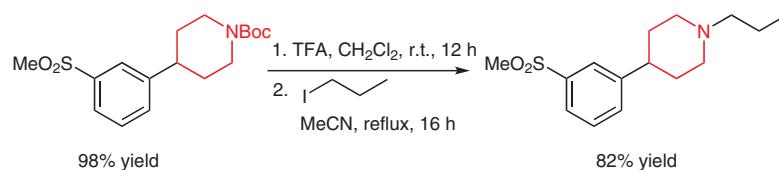
R¹ = H, various alkyl moieties
R² = various alkyl moieties
Hal = Cl, Br



Selected examples:



Synthesis of pridopidine:



Significance: The authors describe a general nickel-catalyzed cross-electrophile coupling of functionalized alkenyl, aryl, and heteroaryl halides with various primary and secondary amides using electrochemistry. The alkylated products were obtained in high yields.

Comment: Key for high coupling yields was the use of the electron shuttle reagent Ni(η³-L)₂, which efficiently prevents over-reduction and thus decomposition of the unsaturated halides. Significantly, this enables an easy scale up by performing the reaction at high currents on a 75 mmol scale.

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